Promoting early cognitive development in South Africa

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The importance of parent-child engagement…

The Winnicott Research Unit has, for the past two decades, been engaged in research into the factors that disrupt optimal child development. Much of this work has concerned the impact of maternal affective disorder on child socio-emotional and cognitive development.

A particular focus has been on elucidating the parenting processes that are disrupted by maternal depression and anxiety, and the impact of specific forms of such disruption on particular child outcomes. Thus, in the case of postnatal depression, a condition affecting around 13% of puerperal women postpartum in the developed world (and a considerably higher proportion in conditions of socioeconomic adversity), our research has revealed a number of long-term adverse consequences to child development.

For example, compared to offspring of non-depressed mothers, those whose mothers were postnatally depressed had a fourfold increase in the risk of becoming depressed themselves by age 16 (Murray et al, 2011); and in boys of postnatally depressed mothers, cognitive deficits were identified in late infancy, with adverse consequences in performance at GCSE, equivalent to a drop of one grade for each of seven subjects (Murray et al, 2010).

In line with the work of others, we have been able to demonstrate deficits in three parenting capacities in the context of postpartum depression, each of which has a specific impact on child development:

- Maternal appropriate contingent responsiveness can be impaired, and this compromises the development of the child's attentional capacities and cognitive ability;
- Maternal emotional 'scaffolding' (principally through warmth, consistent support, and low levels of intrusiveness and coercion) can be impaired, and this adversely affects child emotional regulation and behaviour;
- The ability to provide sensitive responsiveness to the child's attachment-relevant needs is impaired, which increases the risk for insecure attachment (with consequences of subsequent experience of depression).

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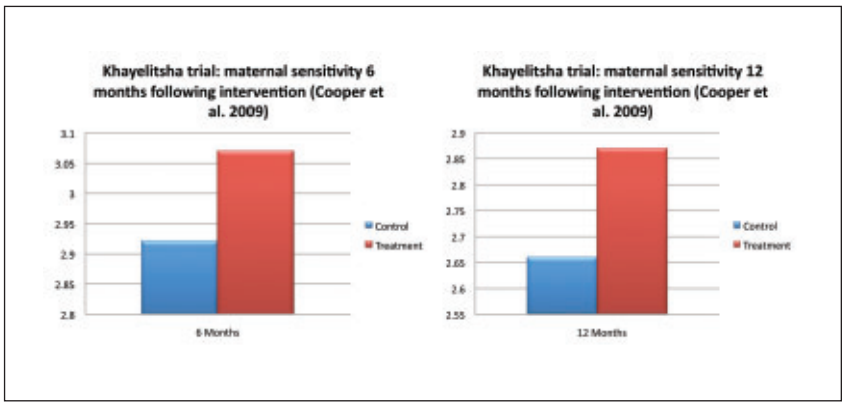
The therapeutic implications of these findings are clear, although research on these implications is at an early stage. Currently, together with our colleague, Professor Alan Stein, of the Oxford University Child and Adolescent Psychiatry Department, we are conducting a controlled trial of the treatment of severe postpartum depression, targeting the specific parenting deficits highlighted above.

For some years, we have been examining the implications of our findings concerning the impact of disturbances in parenting on child development in circumstances where parenting is placed under particular stress. In collaboration with Professor Mark Tomlinson, of the University of Stellenbosch, South Africa, we have been working in an indigent peri-urban community, Khayelitsha, on the outskirts of Cape Town. Here we found both a high rate of postnatal depression and marked associated impairments in the mother-infant relationship, with especially high rates of non-contingent and intrusive interactions (Cooper et al, 1999). We also identified a high rate of insecure infant attachment (Tomlinson et al, 2005), but the full impact of these early disturbances in the infants' social environment has yet to be determined. Certainly, research from the developed world suggests that the impact is likely to be considerable. Indeed, these children are doubly disadvantaged because poverty itself is strongly associated with compromised child development.

Arguably, amongst the range of deficits experienced in these disadvantaged contexts, it is the cost to cognitive development and the associated educational failure that contribute most to the entrenchment of cycles of deprivation. The evidence for there being a cognitive disadvantage amongst South African children is compelling. In the PIRLS (2007) review of literacy amongst 9/10 year old children in 40 countries, South Africa was at the bottom of the performance table. Consistent with this, a recent report revealed that for learners in Grade 3 (children aged nine), 58.1% did not achieve the acceptable performance level in literacy skills (Department of Basic Education, 2011). A strong case could therefore be made that the potential benefit of an early intervention targeting child cognitive



development in peri-urban South Africa requires systematic investigation.

We have already demonstrated the value of an early mother-infant intervention in South Africa. An intervention designed to improve maternal sensitivity towards infants recently offered to mothers in Khayelitsha was well received and, in a well-controlled evaluation, proved to be of benefit to both the quality of the mother-infant relationship and child emotional development (Cooper et al, 2009). Although child cognition was not specifically targeted, where socio-economic disadvantage was not extreme, there was evidence of a significant benefit of the intervention to child IQ. This is encouraging and suggests that a more targeted intervention could prove effective.

Research from economically developed countries suggests that book sharing between a carer and an infant may be especially effective as a means of promoting infant cognitive and language development. This research, generally with children aged nine months to two years, has consistently found that book sharing is quite naturally treated by parents as a 'language acquisition device'.

Periods of prolonged joint attending between carer and infant more commonly occur when sharing picture books than in other situations; further, during these times, more than in any other context, carers name objects for the infant, and they more often acknowledge, extend and elaborate on the focus of the infant's interests or on the sounds they make. Talking about people's thoughts, feelings and intentions has also been found to occur more commonly in the context of sharing picture books than in other kinds of conversation with young children, and, in turn, this kind of talk has been found to predict how well children understand other people's experience. Significantly, training studies that have aimed to improve the quality of book sharing have consistently shown that, compared to other kinds of parent training, book sharing programmes are associated with greater gains in infants' language skills.

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In view of the strong evidence from the developed world supporting the value of early mother-infant book sharing training, we have recently conducted a small pilot study in Khayelitsha, to investigate the impact on mothers and infants of a brief training programme. The mothers engaged well with the training and clearly benefited from it. Compared to controls receiving support for general play with the infant, mothers who received the book sharing training became more sensitive, more facilitating and more elaborative in their book sharing. Further, compared to the controls, there appeared to be general benefits from this training for infant attention, as well as in terms of infant comprehension and vocabulary. Since this intervention has the potential to be of considerable benefit to child developmental progress under conditions of socioeconomic adversity, we are planning to initiate a definitive controlled trial.

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